



Unlocking the Promise of the Seed

Seed Tag/Bag Labeling

Challenges & Practical considerations

October 21, 2013



Agenda

- Seed Tag Language Requirements
- Areas of Concern & Practical Considerations
 - Increase in labeling content & complexity
 - Targeted audiences
 - Purpose behind seed tag statements
 - Inconsistent application of requirements
- Summary of Concern Areas
- Proposed Treated Seed Tag/Bag Harmonization

SEED TREATMENT LABELING

FEDERAL SEED ACT

STATE SEED ACTS

OSHA HAZARD COMMUNICATION ACT

FIFRA-RELATED COMPONENTS (safety & risk information)

Additional EPA Requirements

- Identifying the A.I. concentration levels
- Stewardship statements, e.g.:
 - Proper disposal
 - Worker protection
 - Use rates/season
 - Pollinator exposure mitigation

Increase in Labeling requirements and Complexity

- Standard Seed Company seed tags are 3x9 ([see example](#)). Seed companies prefer to have the flexibility to use 1 preprinted tag which includes proper language covering Seed Act requirements.
- Additional required language can force multiple tags or expanded sized tags
 - Concern is end-user will not read lengthy tags
 - Some requirements are unclear and redundant, making end-user difficult to read.
- **Goal is to keep language simple, visible, and easy to read.**

Areas of Concerns & Practical Considerations

Targeted Audiences: Relevance of Label Language Placement

Pesticide Product Label

Seed Treaters, Farmers & Workers

VS.

Seed Bag Tag

End-user (farmer)

Message in treated seed bag statements has
different audience than pesticide product labels.

Targeted Audiences: Relevance of Label Language Placement

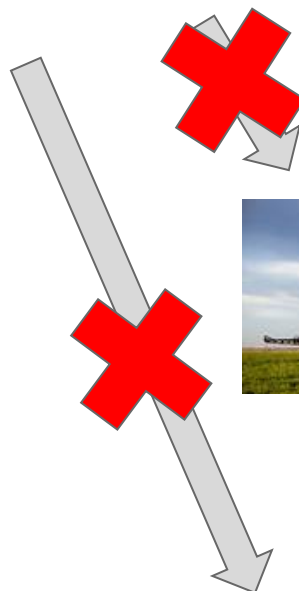
Pesticide Product Label

- For pesticide products (a.i.) that can be used for **seed treatment (only)**, there are **two** potential audience sectors:
 - Seed Treaters (commercial and on farm applications)
 - Farmers using treated seed
- For pesticide products (a.i.) that can be used for seed treatment **and** for foliar/ soil application, there are **three** potential audience sectors:
 - Seed Treaters
 - Farmers using treated seed
 - Farmers and farm workers

Intend Conve

- EPA - Do not use treated seed for food, feed, or oil production. Excess treated seed may be used for ethanol production only if (1) byproducts are not used for livestock feed and (2) no measurable residues of pesticide remain in ethanol by-products that are used in agronomic practice.

Traditional



Intended Audience 1
Farmer + Farm Workers



Seed Treatment



Treated Seed Bag



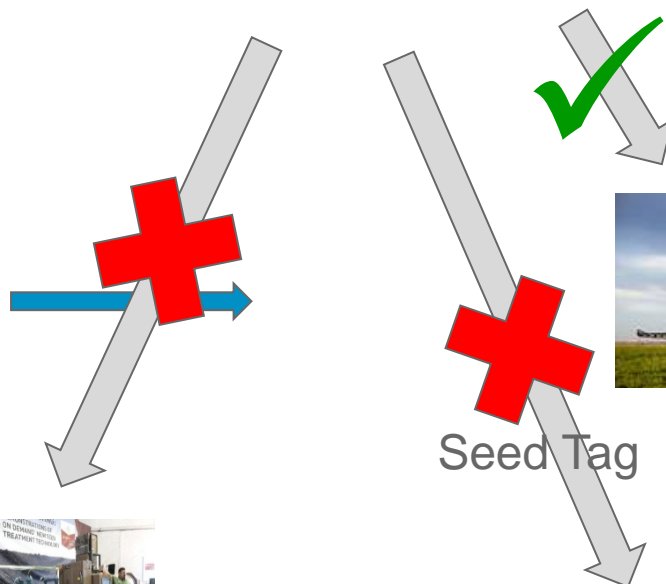
Intended Audience 3
Farmer

Intended Audience 2
Seed Treaters

Inter Conv

EPA - After the seeds have been planted, do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. **Exception:** Once the seeds are planted in soil or other planting media, the Worker Protection Standard allows workers to enter the treated area without restriction if there will be no worker contact with the treated seeds in the soil or planting media

Traditional



Intended Audience 1
Farmer + Farm Workers



Seed Treatment



Treated Seed Bag



Intended Audience 3
Farmer

Intended Audience 2
Seed Treaters

Purpose behind Seed Tag Statements

Is it Practical and Appropriate?

- Having a regulatory (e.g. risk cup, enforcement, environmental safety) intention may not always translate into a practical or effective outcome.
 - Example: Requiring the amount of a.i./ seed be stated on the seed tag
 - **Intention:** To allow farmer to calculate amount applied to field during planting of treated seed so that the farmer can make adjustments to foliar rates to compensate for seed treatment.
 - **Outcome:** Impractical - Not likely to be followed
 - ✓ Seed tag is generally not retained
 - ✓ Too complex to understand & implement
 - ✓ Does not take reality of seed size and planting load into account
 - **Reason:** Intention of requirement is for EPA, not end-user.

Practicality of Message – Application Rate per Seed

ORIGINAL DIRECTIVE

Seed Bag Tag requirements that pose challenges:

*For soybeans: Do not exceed 0.0384 lb. xxxxxxxx/A (17.5 g a.i./A) per crop season. The maximum number of applications per year is 3. This seed has been treated with **xx mg** active ingredients (a.i.) of Product A/seed which includes AI-1(2.5 g a.i./100 Kg seed), AI-2 (5 g a.i./100 Kg seed), and AI-3 (4 g a.i./100 Kg seed).*

- Purported Advantage:

Allows the end-user (farmer) to calculate their maximum usage for the season/crop

- Con/challenges:

Using 1 fl. oz./cwt., the labeled rate of 0.019 mg. a.i./seed is based on 2,800 seeds/lb.

- This “xx” factor will change every time seed size changes – **depending on the treater location, this could be as many as 10-15 times/day.** A treater would have to produce a different tag for every seed size. Treater prefer to print tags in bulk runs at the beginning of the year
- Too complex to understand and implement
- Farmer won't refer to this in making subsequent foliar applications

Practicality of Message – Application Rate per Seed

REVISED APPROACH

We appreciate EPA's willingness to adopt more practical approach regarding application per seed requirements (see below):

- Alfalfa: Do not exceed 0.00225 lb ai/A (1.02 g ai/A) per crop season.
- Beans and Peas (excluding soybeans): Do not exceed 0.0384 lb ai/A (17.5 g ai/A) per crop season.
- Soybeans: Do not exceed 0.0384 lb ai/A (17.5 g ai/A) per crop season.
- Oil Seed Crops: Do not exceed 0.00123 lb ai/A (0.6 g ai/A) per crop season.
- Cotton: Do not exceed 0.0019 lb ai/A (0.86 g ai/A) per crop season.
- Cereal Grains (except corn, sorghum, and rice) do not exceed 0.0078 lb ai/A (3.5 g ai/A) per crop season.
- Corn: Do not exceed 0.0033 lb ai/A (1.5 g ai/A) per crop season.
- Sunflower and Safflower: Do not exceed 0.00123 lb ai/A (0.6 g ai/A) per crop season.
- Rice (Dry seeded): Do not exceed 0.006 lb ai/A (2.7 g ai/A) per crop season.

Nevertheless, if the intent is to restrict use of lbs. a.i./acre to within risk cup, it would be more appropriate to revise the allowable use rates on pesticide product label to have an upper use limit for foliar applications following seed treatment.

Inconsistent Application of Requirements

- Different EPA teams pursue/mandate different requirements and statements
- Most often the requirement is introduced for 1st time during last stages of a PRIA decision
 - Acceptance often at risk of not obtaining use approval
- Company potentially at a competitive disadvantage if they are the only one sporting the language
 - No mechanism to require other registrants from being required to carry same requirements
 - Often many years until they file for a new application/ registration review

Inconsistent - Language Requirements Example

FORM: 1821-A
NAME: INOVATE Seed Protectant
DATE: 8/19/11

LABEL SIZE: 3.5" x 6.5"

CYAN
MAGENTA
YELLOW
BLACK

FRONT TOP

No copy 1"

6.5"

3.5"

INOVATE
Seed Protectant

TREATED SEED

This seed has been treated with INOVATE® Seed Protectant which contains clothianidin, metalaxyl and ipconazole at the rates recommended by the manufacturers.

CAUTION
DO NOT USE TREATED SEED FOR FEED, FOOD OR OIL PROCESSING
STORE AWAY FROM FEEDS AND OTHER FOODSTUFFS
KEEP OUT OF REACH OF CHILDREN

PERSONAL PROTECTIVE EQUIPMENT (PPE)
Wear long-sleeved shirt, long pants and chemical-resistant gloves such as Natural Rubber ≥ 14 mils, Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber or Viton when handling treated seed.

FIRST AID
If swallowed: Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything to an unconscious person. Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If in eyes:

PPE

Wear long-sleeved shirt, long pants and chemical-resistant gloves when handling treated seeds.

PPE

Wear long-sleeved shirt, long pants and chemical-resistant gloves such as Natural Rubber 14≥ mils, Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber or Viton when handling treated seed.



This seed has been treated with thiamethoxam insecticide and metconazole fungicide.

DO NOT USE FOR FEED, FOOD OR OIL PURPOSES.

User is responsible for ensuring that the seed bag meets all requirements under the Federal Seed Act.

Storage: Store away from food and feedstuffs. Do not allow children, pets or livestock to have access to treated seed.

Planting: Follow planter manufacturer instructions for use of this or other liquid seed additives at planting.

Personal Protective Equipment: Wear long-sleeved shirt, long pants and chemical-resistant gloves when handling treated seeds.

Disposal: Dispose of all excess treated seed. Leftover treated seed may be double-bagged around the headland or buried away from water sources in accordance with local requirements. Do not use treated seed for animal feed. Dispose of planting equipment washwaters. Dispose of seed packaging in accordance with local requirements.

Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed and (2) no measurable residues of pesticide remain in ethanol by-products that are used for agronomic practice.

Environmental: Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading. Treated seed must be planted into the soil at a depth greater than 1 inch.

To protect the Preble's Meadow-Jumping Mouse, sunflower seed treated with Cruiser SFS may not be planted in Elbert or Weld Counties in Colorado.

General Information for All Treated Seeds: Avoid breathing dust from treated seeds. Work upwind while loading planters. Workers may choose to wear a dust mask. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Planting Restrictions: In the event of a crop failure or harvest of a crop grown from Cruiser SFS treated seed, the field may be replanted immediately to alfalfa, brassica (cole) leafy vegetables, cereal grains (including barley, buckwheat, corn, pearl millet, proso millet, oats, popcorn, rice (dry-seeded), rye, sorghum, teosinte, triticale, wheat, and wild rice), canola, cotton, cucurbit vegetables, dry bulb onions, fruiting vegetables, leafy vegetables, legume vegetables, mint (peppermint and spearmint), oil seed crops (black mustard seed, borage seed, crambe seed, field mustard seed, flax seed, Indian mustard seed, Indian rapeseed seed, peanuts, rapeseed seed, and safflower seed), root vegetables, strawberries, sunflowers, tobacco, and tuberous and corn vegetables. For any other crop, the minimum plant back interval is 120 days from the date the Cruiser SFS treated seed was planted. A cover crop other than the crops listed above that is planted for erosion control or soil improvement may be planted sooner than the 120 day interval; however, the crop may not be grazed or harvested for food or feed.

Do not make any soil or foliar application of products containing thiamethoxam to crops grown from seed treated with Cruiser SFS (thiamethoxam).

Do not use at a rate that will result in more than 0.14 lb. thiamethoxam per acre (83.5 grams a.i./A) per season. This seed has been treated with thiamethoxam at 0.25 mg a.i./seed.

Ground Water Advisory: Thiamethoxam has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into the ground water if used in areas where soils are permeable, particularly where the water table is shallow.

Pollinator Precautions: Thiamethoxam is highly toxic to bees, and effects are possible as a result of exposure to translocated residues in blooming crops.

For Emergencies or questions related to metconazole or thiamethoxam applied to this seed, please call 1-800-888-8372.

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0813 Sunflower



Inconsistent Application of Requirements

Example

- Bayer was required to add certain “mg a.i./seed” information in the seed bag tag section, i.e., “*For soybeans: Do not exceed 0.0384 lb. xxxxxxxx/A (17.5 g a.i./A) per crop season. The maximum number of applications per year is 3. This seed has been treated with **xx mg** active ingredients (a.i) of Product A/seed which includes AI-1(2.5 g a.i./100 Kg seed), AI-2 (5 g a.i./100 Kg seed), and AI-3 (4 g a.i./100 Kg seed).*”
- Bayer was only one required to put these additional components on their seed tags for the same a.i.:
 - Difference in directives and guidance by different teams within EPA
 - Non-standardization to all A.I.’s under similar new requirements
 - Cause confusion by users (seed companies, treaters and grower levels)
 - Competitive disadvantage by registrants.

Inconsistent Application of Requirements

- Need process that includes:
 - Vetting of proposed new statements prior to issuance
 - This allows for consistent stewardship practices
 - ✓ Between review teams within EPA
 - ✓ With impacted stakeholder groups
 - Implementation of a process that legally requires all registrants of a.i. to conform to new statements
 - ✓ Needs to be done within a defined timeframe

Summary of Concerns

- Are practical and manageable requirements being implemented?
- Are the correct audiences being touched?
- Is the issuance of additional requirements timely and consistent?

Conclusions & Recommendations

- **Fully vet proposed additional seed tag language with impacted stakeholders as well as internally within the Agency and SLAs BEFORE issuing them as requirements**
 - Additional time but ensures buy-in and practical implementation
 - Better safety overall and speed of adoption rate increases
- **Be conscience of intended audience (i.e. # 1, 2 or 3) and intended purpose of language before deciding best approach for labeling.**
 - Better safety overall with target audiences
- **Be consistent amongst registrants**
 - Difference in directives/execution by different teams within EPA leads to differing requirements between registrants
 - Confusion by users
 - Avoidance of potential competitive disadvantages

Proposed Treated Seed Tag/Bag Harmonization

Proposal

- STATEMENTS TO RETAIN ON SEED TAG/BAG
 - *General*
 - *Stewardship Statements*
 - *Compound-Specific Seed Tag Statements (as applicable)*
- STATEMENTS FOR FURTHER DISCUSSION
- STATEMENTS WE FEEL SHOULD NOT BE ON THE SEED TAG/BAG

STATEMENTS TO RETAIN ON SEED TAG/BAG

General:

- This seed has been treated with **XXX** (name of active ingredients).
- Do not use treated seed for feed, food or oil purpose.
- Wear long-sleeved shirt, long pants, shoes, socks, and chemical-resistant gloves when handling treated seed.
- Treated seeds must be planted at a minimum depth of **X** inches.
- Treated at manufacturer's recommended rate.¹
- "TREATED SEED", plus signal word for category of treatment material.²

¹ State of Florida requirement

² State of California requirement

STATEMENTS TO RETAIN ON SEED TAG/BAG

Stewardship Statements:

- Storage and Disposal: Store treated seed away from food and feed, and do not allow access by children, pets, or livestock. Do not reuse or refill empty seed bags, and dispose of treated seed bags in accordance with local requirements.
- Do not contaminate bodies of water when disposing of excess treated seed or wash waters of planting equipment. Dispose of them in accordance with local requirements.
- Exposed treated seeds may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting.

STATEMENTS TO RETAIN ON SEED TAG/BAG

Compound-Specific Seed Tag Statements (as applicable):

- This compound is highly toxic to bees exposed directly (contact).
- Ensure that planting equipment is functioning properly in accordance with manufacturing recommendations to minimize seed coat abrasion during planting to reduce dust which can drift to blooming crops or weeds.³
- Surplus seed or empty seed containers should be stored or disposed according to local federal regulations.⁴
- Grazing Restriction statement
- Plant Back Restriction statement

³ Consistent neonicotinoid-specific seed tag language to be vetted with Agency in near future

⁴ Ditto

STATEMENTS FOR FURTHER DISCUSSION

- Excess treated seed may be used for ethanol production only if:
 - By-products are not used for livestock feed, and
 - No measurable residues of pesticides remain in ethanol by-products that are used for agronomic practice.⁵

⁵ This statement is really directed to commercial seed treaters. Is there an alternative venue to relay this requirement as it does not apply to farmers?

STATEMENTS WE FEEL SHOULD NOT BE ON THE SEED TAG/BAG

- E-fate related statements, for example: This product contains X that is known to leach through soil into groundwater under certain conditions as result of agricultural use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.
- Do not use augers used for handling treated seed to move seed for feed, food or oil production.

STATEMENTS WE FEEL SHOULD NOT BE ON THE SEED TAG/BAG

- Regardless of the type of application (seed treatment, soil or foliar), do not apply more than a total of **X** or (**Y** gram) (active ingredient) per acre per crop season.
- “mg a.i./seed” in the use directions and seed bag tag: “if seed size is **XX** seeds/lb. (**XXY** lbs./U), **ZZ** fl oz. a.i./cwt. would provide **YY** mg a.i./seed.”
- After seeds have been planted, do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of X hours. Exception: Once seeds are planted and covered by soil or other planting media, the Worker Protection Standard (WPS) allows workers to enter the treated area without restriction.

Conclusions

1. Harmonized Statements:
 - a. It will allow additional time for stakeholders to implement seed tag language
 - b. Be concise and targeted to intent audiences
 - c. Be consistent amongst registrants

2. Adopt final text on a guidance document and/or added to the EPA Label Manual.

Thank you!